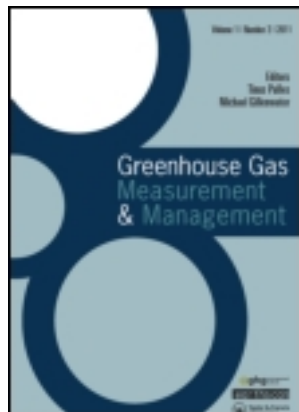


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What is wrong with 'real' carbon offsets?

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Questionable diction

Over the last several years, an extensive literature on greenhouse gas (GHG) emission offsets and offset programmes has emerged (CRS, 2007; OQI, 2008; Kotchen, 2009; Bushnell, 2010; Kollmuss et al., 2010; Sovacool, 2011; Gillenwater and Seres, 2012). Common to much of this literature and to all major GHG emission offset programmes is some elaboration of quality criteria for defining what constitutes an acceptable offset project. The purpose of this short essay, while supporting the use of offsets as a policy mechanism, is to argue that a ubiquitous element in these quality criteria is essentially meaningless and should be purged from the technical lexicon for this topic.

Reports and studies on carbon offset programmes and markets make frequent reference to common quality principles for emission offset projects. If you have followed any of these programme design discourses you can probably repeat most of the principles by memory: real, additional, permanent, verifiable, no double counting, etc. Different programmes or protocols might add other points about GHG accounting concepts like leakage (i.e. changes in GHG emissions outside of the specified system boundary) or the quality of the baseline used (i.e. reference projection of emissions absent the specified intervention), or the principles might be further supplemented with good practice precepts that could apply to any programme, such as accuracy, completeness, or conservativeness. But, common in the literature as well as to almost all programmes, standards, and protocols is the explicit statement that offset projects must be 'real'.

However, there is a problem here. What does it mean for an offset project to be real? What would an unreal offset project be? How could we tell if it was not real, and is this something policy makers, offset programme administrators, and verification bodies should be concerned about?

For years I have never really been clear what was meant by the term 'real' in the context of carbon offsets. But, apparently like almost everyone in this community of practice, I went along with using the *lingua franca*. All the literature and discussions I had with other experts confirmed that this term had a commonly understood and significant meaning. It must be worth using and repeating because everyone else was repeating it ... yes? Some things you do not question because they sound good, even if you are not sure what they mean. You assume everyone else understands and that maybe you are just missing some key rationale.

An early, although possibly not the earliest, reference to the term 'real' in emissions trading comes from the US Clean Air Act. Specifically, the 'New Source Review' programme under the United States Clean Air Act of 1977, which required offsets under that programme to '*real, creditable, quantifiable, permanent, and federally enforceable*' [emphasis added].¹ Given that this early form of an offset programme set 'real' as its leading quality criteria, it seems likely that the precedent and pattern started with this legislative language.

But I am here to argue that 'real' is a meme that lives on only because it sounds good not because it is useful or meaningful. Or to be more blunt ... the term 'real' in the context of emission reduction offsets is little more than ambiguous gibberish and that there would be no loss in substance or meaning if we simply did away with the term entirely when speaking of offset quality criteria. Further, by relying on principles and language that lack useful and precise meaning, we risk doing long-term harm to the credibility of offset mechanisms as a class within our policy options toolkit. In part, the use of the continued use of the term is probably a historical accident; a carryover from US legislative language.

¹<http://yosemite.epa.gov/ee/epa/eed.nsf/2602a2edfc22e38a8525766200639df0/077b72dd6d7b50a885257746000aff0d?OpenDocument>.

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A review of what's real

Before going further, I must disclose, that I have been repeatedly guilty of using the term 'real', most significantly in work through the Offset Quality Initiative (OQI, 2008, 2009a, 2009b).

If you are familiar with the literature on carbon offsets, then you are probably thinking to yourself that you have seen 'real' defined in those papers and the definition seemed acceptable and reasonable. In the following, I will systematically show why the definitions found in this literature are neither consistent nor distinctive. To avoid any bias, I will start with a resource that is co-sponsored by my own organization. The Carbon Offset Research & Education (CORE)² website refers to the meaning of 'real' as

Offsets should come from real projects that have actually been implemented or will be implemented.

Here is a fairly clear case of a circular definition ... using the term real to define real. Reading more closely, though, the intended meaning seems to be that offset credits cannot come from imaginary projects. The definition also seems to imply some acceptance of forward crediting (i.e. issuing credits before emission reductions have occurred). Forward crediting is a legitimate issue. But it is not clear that the term 'real' is synonymous with the issue of forward crediting. My guess is that is not what most experts would intuitively think of when they are asked to define 'real'. Further, it would be much more clear and transparent to say 'forward crediting is' or 'is not' allowed when elaborating offset quality criteria.

The Regional Greenhouse Gas Initiative (RGGI) defined 'real' as (RGGI, 2008)

Offsets must represent actual emission reductions and not artifacts of incomplete or inaccurate accounting. The effects of a project on GHG emissions must be comprehensively accounted for, and 'leakage' in emissions must be factored into the quantification of emission reductions.

In its definition, RGGI includes the concepts of completeness and accuracy in accounting as well as the analogous issue of leakage. So does 'real' mean the same as accuracy and completeness? Or is 'real' just a synonym for leakage?

In a joint white paper by the Western Climate Initiative (WCI) and RGGI they went further (RGGI/WCI, 2010):

For a greenhouse gas offset to be real an offset compliance unit must represent one ton of CO₂-equivalent (CO₂e)

greenhouse gas emissions reduction or removal (carbon sequestration) that results from an identified emissions reduction activity (i.e., a clearly identified action or decision). Offset project emissions reductions or removals must not be an artifact of incomplete or inaccurate accounting. Therefore, a project emissions or carbon sequestration baseline and project emissions reductions or removals must be quantified using accurate quantification methodologies and conservative assumptions where appropriate to account for measurement uncertainty. Quantification methodologies must appropriately account for all relevant greenhouse gas emissions sources and sinks and identified project leakage.³

Let us unpack this quote. It seems that 'real' for RGGI and WCI means pretty much everything. There is a suggestion that the concept of offset project additionality in the language on action or decision. They add the concepts of completeness and credible baselines as well as conservativeness and leakage. And it seems the principle of accuracy is repeated several times. So maybe 'real' is just some meta-level principle that implies all 'good' things related to offset project quality.

The California Air Resources Board, a state government agency charged with implementing parts of California's 'Global Warming Solutions Act' (AB32), has presented their interpretation of the legislation's use of 'real' as comprising the following components:⁴

- Conservative estimates
- Sound quantification methodologies
- Verified reductions
- Reductions are permanent
- Account for emissions leakage
- Avoid double counting

Here again, it seems 'real' is all good things, such that it is not clear what it does not mean.

The organization formerly known as the Pew Center on Global Climate Change (now the Center for Climate and Energy Solutions or C2ES) defined 'real' in its briefing on offsets as (C2ES, 2008)

GHG emission reductions should represent actual emission reductions and not simply be artifacts of incomplete or inaccurate accounting.

³http://www.rggi.org/docs/Three_Regions_Offsets_Whitepaper_05_17_10.pdf.

⁴<http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm>.

²<http://www.co2offsetresearch.org/consumer/OffsetQuality.html>.

Like with RGGI, it appears that C2ES too is referring to the principles of completeness and accuracy.

You may find this exercise to be interesting, but still wonder whether this problem extends to the major voluntary and compliance offset crediting programmes. Given their need to actively implement quality principles, surely they have been more rigorous in their thinking on this issue.

First, the Clean Development Mechanism rules state that offset projects must be 'real' in various governing documents, but I am not aware of the term being defined anywhere officially. If true, then the simple lack of a definition is troubling in itself.

The Verified Carbon Standard (VCS) seems to call upon what I refer to as the imaginary friend test in its definition of 'real' (VCS, 2012).

All the GHG emission reductions and removals and the projects that generate them must be proven to have genuinely taken place.

The fundamental principle here is important, but I am not sure it is something we need to label as a quality criterion. The issue that VCS seems to be addressing is well-covered under the concept of fraud. Lying and claiming that some non-existent offset project activity is taking place is an obvious instance of fraud. I would be concerned with any programme that saw it necessary to explicitly and prominently state that the activities it certifies for financial transactions should not be fraudulent. If such notification was deemed necessary, then instead of saying 'real', programmes should be explicit and clearly state that offset projects should not be based upon fraudulent information. This language would address the issue without ambiguity. Although it is still not clear to me why a programme should feel it necessary to include such a point in its list of quality principles, any more than it should need to state that projects should not involve property theft or other illegal acts.

From WRI and the GHG Protocol team we have the following (WRI/WBCSD, 2005):

An offset credit is real if it represents an actual net reduction or sequestration in emissions, and is not an artifact of incomplete or inaccurate emissions accounting, including leakage. Leakage is defined as an unintended increase in GHG emissions caused by a project. A frequently cited example of leakage is a forest sequestration project that simply shifts deforestation activities to other forest land, reducing or eliminating the net sequestration from the project.

Here, the GHG Protocol seems to view 'real' as being a synonym for both completeness and accuracy, which they also explicitly list as separate principles. They state that real is also about leakage, and go on and try to explain leakage within their definition of 'real'. Does this definition of 'real' based on a concept distinct from other existing principles?

The Climate Action Reserve (CAR) offers the following definition for 'real' (CAR, 2011):

Estimated GHG reductions should not be an artifact of incomplete or inaccurate emissions accounting. Methods for quantifying emission reductions should be conservative to avoid overstating a project's effects. The effects of a project on GHG emissions must be comprehensively accounted for, including unintended effects (often referred to as 'leakage').

Again, we have concepts related to completeness, accuracy, conservativeness (which can come into conflict with accuracy), as well as leakage (which is a derivative of completeness).

ISO 14064-Part 2 is silent and does not use the term (ISO, 2006; Gillenwater, 2012).⁵ The Gold-Standard and Carbon Fix require that projects be 'real' but do not appear to explain what they mean by this term.⁶

Conclusion

It seems that, at least on this specific issue, the emission offset community, myself included, has taken on the characteristics of a used car salesman... spouting off a term that sounds good to everyone but that does not clearly mean anything. We might as well have required that offset projects be 'beautiful' or 'synergistic' or some other vacuous buzzword that can be employed to sell an idea. You may have thought you knew what a 'real' offset project was, but hopefully this essay convinces you that upon inspection, the offset community has fallen under a form of group think. What is amazing, and worthy of its own sociological study, is how we managed to go for long in our development of standards, laws, methodologies, manuals, and articles using such an ambiguous term for our fundamental concepts of offset project quality.

I propose that the carbon offset community do away with the term 'real' when referring to offset project quality criteria. If your concern is completeness, then label it as 'completeness.' If it is 'accuracy' then say that explicitly. If you want

⁵ISO 14064:2 also lacks definitions or guidance on how to address offset project additionality, which is fascinating given that the very concept of an offset is predicated on the concept of additionality.

⁶Note, Carbon Fix has recently merged with the Gold Standard Foundation.

to forbid forward crediting, then say forward crediting is not allowed. If we want offset projects and offset policies to be viewed as credible we need to speak with purpose and precision instead of just saying what sounds good. I hope that we can assume that 'absence of fraudulent information' is a criterion that everyone understands implicitly.

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References

- Bushnell, J.B., 2010, *The Economics of Carbon Offsets*, No. 16305: 14, National Bureau of Economic Research, Cambridge, MA.
- C2ES, 2008, *Greenhouse Gas Offsets in a Domestic Cap-and-Trade Program*, Pew Center on Global Climate Change, Arlington, VA.
- CRS, 2007, *Voluntary Carbon Offsets: Overview and Assessment*, CRS Report for Congress, RL34241, Congressional Research Service, Washington, DC.
- CAR, 2011, *Climate Action Reserve Program Manual*, Climate Action Reserve, Los Angeles, CA.
- Gillenwater, M., 2012, *What Is Additionality? Part 1: A Long Standing Problem*, Greenhouse Gas Management Institute, Washington, DC.
- Gillenwater, M., Seres, S., 2012, 'The Clean Development Mechanism: A review of the first international offset programme', *Greenhouse Gas Measurement and Management* 1(3–4), 1–25.
- ISO, 2006, *Greenhouse gases – Part 2: Specification with Guidance at the Project Level for Quantification, Monitoring and Reporting of Greenhouse Gas Emission Reductions or Removal Enhancements*, Organization for International Standardization, Geneva, ISO 14064-2:2006(E).
- Kollmuss, A., Lazarus, M. et al. 2010, *Handbook of Carbon Offset Programs: Trading Systems, Funds, Protocols and Standards*, Earthscan, London.
- Kotchen, M.J., 2009, 'Voluntary provision of public goods for bads: A theory of environmental offsets', *The Economic Journal* 119(537), 883–899.
- OQI, 2008, *Ensuring Offset Quality: Integrating High Quality Greenhouse Gas Offsets Into North American Cap-and-Trade Policy*, Offset Qualitative Initiative, Portland, OR.
- OQI, 2009a, *Assessing Offset Quality in the Clean Development Mechanism*, Offset Quality Initiative, Portland, OR.
- OQI, 2009b, *Maintaining Carbon Market Integrity: Why Renewable Energy Certificates Are Not Offsets*, Offset Quality Initiative, Portland, OR.
- RGGI, 2008, *Regional Greenhouse Gas Initiative Model Rule*, Regional Greenhouse Gas Initiative, Inc., New York, NY.
- RGGI/WCI, 2010, *Ensuring Offset Quality: Design and Implementation Criteria for a High-Quality Offset Program*, Regional Greenhouse Gas Initiative/Western Climate Initiative, New York, NY.
- Sovacool, B.K., 2011, 'The policy challenges of tradable credits: A critical review of eight markets', *Energy Policy* 39(2), 575–585.
- VCS, 2012, *VCS Program Guide*, VCS Version 3.4 Requirements Document, Verified Carbon Standard, Washington, DC.
- WRI/WBCSD, 2005, *The Greenhouse Gas Protocol: The GHG Protocol for Project Accounting*, World Resources Institute and World Business Council for Sustainable Development, Washington, DC and Switzerland.